Abstract

A data transformation algorithm is selectively applied to each data vector as it enters the pipelined structure. In a selection step, the algorithm compares the bit value of the new data vector with the corresponding bit values of the preceding data vector, and sums the number of logic transitions. The transformation algorithm is applied to the new data vector only if it would reduce the resulting number of transitions, otherwise the data vector is propagated unmodified. Bit inversion is a data transformation algorithm according to the present invention that provides up to a 50% reduction in the number of logic transitions.